

## RAW SEQUENCE LISTING

DATE: 08/09/2001

PATENT APPLICATION: US/09/817,762

TIME: 16:57:02

Input Set : A:\PTO.txt

Output Set: N:\CRF3\08092001\I817762.raw

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4 <110> APPLICANT: Spalding, Edgar P.
5     Noh, Bosl
7 <120> TITLE OF INVENTION: MDR-Like ABC Transporter Gene From
8     Plants
10 <130> FILE REFERENCE: 13238-00061
C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/817,762
C--> 13 <141> CURRENT FILING DATE: 2001-03-26
15 <150> PRIOR APPLICATION NUMBER: PCT/US99/22363
16 <151> PRIOR FILING DATE: 1999-09-24
18 <150> PRIOR APPLICATION NUMBER: US 60/101,814
19 <151> PRIOR FILING DATE: 1998-09-25
21 <160> NUMBER OF SEQ ID NOS: 14
23 <170> SOFTWARE: FastSEQ for Windows Version 4.0
25 <210> SEQ ID NO: 1
26 <211> LENGTH: 4051
27 <212> TYPE: DNA
28 <213> ORGANISM: Arabidopsis thaliana
30 <220> FEATURE:
31 <221> NAME/KEY: misc_feature
32 <222> LOCATION: (94)...(0)
33 <223> OTHER INFORMATION: Translation start codon
35 <221> NAME/KEY: misc_feature
36 <222> LOCATION: (3932)...(0)
37 <223> OTHER INFORMATION: Stop codon
39 <400> SEQUENCE: 1
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41   ttcattcttt ctctctctct ctctcaactgc tcaatgatct cgtttttctca ctaaaccacac      120
42   tcgtttcttc ttacttttct taactcggat ctacaaaaaa ccatgtcgga aactaacaca      180
43   accgatgcc aagactgttc agcagaagca gagaagaaga aagaacagag ttaccattc      240
44   tttaaactct tttctttcgc tgataaattt gattatctct taatgttcgt tggttctctt      300
45   ggtgccattg ttcattggctc ttccatgcct gtcttctttt tactctttgg tcaaattggt      360
47   aatggatttg gtaaaaacca aatggattta catcaaattg ttcattgaagt ctctagatat      420
48   tctctatatt tcgtctactt gggtttggtc glllycttct cttcttacgc agagatagca      480
49   tgttggatgt attctggaga aagacaagta gcagcattaa ggaagaaata tcttgaagca      540
50   gtattaaaac aagacgttgg gttctttgat actgatgcta gaactggtga cattgtcttt      600
51   agtgtttcta ctgatactct tcttggtcaa gatgccatta gtgaaaaggt tggaaacttt      660
52   atacattacc tctcaacatt tttggcggga ttagtagttg gatttgtatc agcatggaaa      720
53   ttagctttgt taagtgttgc tgtgattccc ggaatcgctt tcgccggagg tttatacgct      780
54   tatacaactc ccggaattac ttcaaagagc cgtgaatctt atgctaacgc cgggtgttatc      840
55   gccgagcagg caattgctca agttcgaact gtttattctt atggttgaga gagtaaggca      900
56   cttaatgcgt attcggatgc gattcagtat acgcttaagc tcggttataa agcggggatg      960
57   gctaaagggt tgggtttagg atgtacttat ggaatagctt gtatgtcatg ggctttgggt      1020
      gctaaagggt tgggtttagg atgtacttat ggaatagctt gtatgtcatg ggctttgggt      1080

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63	aatattttct	tcccttctgg	gaaaactgtg	gcggttggtg	gtgggagtgg	ctctggaaag	1380
64	agtactgttg	tttccctcat	tgagagattc	tatgatccaa	acagcgggca	aattctgttg	1440
65	gatggtgttg	agataaagac	gcttcagttg	aagtttttgc	gtgaacaaat	cgggcttggt	1500
66	aatcaagaac	ctgcgctctt	tgccactact	atactagaga	acatactcta	tggaaagcct	1560
67	gatgcaacaa	tgggtgaagt	tgaagctgct	gcttccgctg	cgaatgcgca	tagtttcatt	1620
68	acattacttc	ctaaaggcta	cgacacacag	gttgagagaac	gtggtgttca	actctcaggt	1680
69	ggacagaagc	agagaattgc	aattgctagg	gcgatgttga	aagacccaaa	gattctgtta	1740
70	tagatgaag	ctacaagcgc	tottgatgct	agctctgaga	gcattgttca	ggaagcttta	1800
71	gacagagtca	tgggtgggag	gaccactggt	gttggtgctc	atcgtctctg	caccatcaga	1860
72	aatgttgatt	ccattgccgt	gatacagcaa	ggccaagtgt	ttgaaaccgg	aacacatgaa	1920
73	gaactcattg	ccaaatccgg	tgtttacgca	tccctcatca	ggtttcagga	aatggttggt	1980
74	actcgagatt	tctcaaaccc	gtcaactcgt	cgcactcgtt	caaccctgtt	gaqccattca	2040
75	ctgtcaacga	aatcactcag	tttaagatca	ggaagtgtga	ggaatctgag	ctattcttac	2100
76	agcactggag	ctgatggtcg	gatagagatg	atttcaaagt	cagagactga	ccgaaagact	2160
77	cgtgccctcg	aaaattactt	ctacaggctt	ctcaagctta	attcaccgga	atggccttac	2220
78	tcaatcatgg	gagcagtagg	ctcaattctt	tctggtttca	ttggctctac	atttgctatt	2280
79	gtgatgagca	acatgatcga	agtcttctac	tacacagact	atgattcaat	ggaaaggaaa	2340
80	acaaaagagt	atgtcttcat	ctacattggt	gctgggtctt	atgctgtggg	tgcttatttg	2400
81	atccaacatt	acttctttag	catcatggga	gaaaacctca	caacaagagt	aagaagaatg	2460
82	atgctctcag	ctatcttgag	aaacgaagtt	ggttggttcg	atgaggatga	acacaactca	2520
83	agcctgatcg	ctgcacgttt	agctactgat	gcagcagatg	ttaaattccgc	tatagccgag	2580
84	agaatctcag	taattctaca	aaacatgact	tcacttctca	catccttcat	agtcgccttc	2640
85	atagtagaat	ggagagtctc	acttctcctc	ttaggcacat	tcccacttct	agtcctcgtt	2700
86	aactttgtct	agcaactatc	tctgaagggt	tttgctggag	acacagctaa	ggctcatgca	2760
87	aagacttcaa	tgattgctgg	tgaaggagtc	agtaacatta	gaaccgtagc	agctttcaat	2820
88	gcacagagca	agattctctc	tttgttctgt	catgagcttc	gtgtacctca	gaaaagaagc	2880
89	ttaagcttat	accgaagtca	aacctcgggt	ttcctatttg	gcctctcgca	gcttgctctc	2940
90	tatggttctg	aggctttaat	tctctgggtat	ggtgccacc	ttgtgagtaa	aggcgtgtca	3000
91	accttttcca	aagtgatcaa	agtgtttgtg	gttttggtca	ttactgcaaa	ctctgttgct	3060
93	gaaactgtca	gtcttgctcc	tgaaattatt	cggggagggtg	aagctgttgg	ttcgggtttc	3120
94	tcggctcttg	acaggcagac	caggattgac	cgggatgatg	ctgatgctga	tcccgtggag	3180
95	acgatccgtg	gagacattga	gttttaggcct	gttgatttgc	cttacccttc	aagaccgcac	3240
96	gtcatgggtt	tcagggaactt	taacctcaga	attcgagctg	gacatagcca	agctcttggt	3300
97	ggcgcgagtg	ggtcagggaa	gagttctgta	attgcgatga	tcgagcgggt	ttacgacctt	3360
98	cttgctggaa	aagtcatgat	tgatggcaaa	gacatccgcc	ggctaaacct	gaaatctcta	3420
99	aggetcaaaa	tcgggtcttg	tcaacaagaa	ccagctcttt	tcgcagcaac	gatcttcgac	3480
100	aacatgcctt	atggtaaaga	tgggtgcaact	gaatccgagg	taattgatgc	agctcgagcc	3540
101	gcaaatgctc	acggtttcat	cagtggttta	cctgaagggt	acaaaactcc	agtaggcgaa	3600
102	agaggagtgc	agttatcagg	tggacagaaa	cagaggatcg	cgatagcaag	agctgtgctc	3660
103	aagaacctta	cagtgttgct	tctagacgaa	gcaactagcg	cactagatgc	agaatcagaa	3720
104	tgcgtgctgc	aagaggcgtt	agagaggctc	atgagaggtc	ggaccaccgt	ggtagtgtgt	3780
105	caccgcttgt	ccaccataag	agggtgttgat	tgcattggtg	tgattcaaga	cgggcgggatt	3840
106	gtggagcaag	gcagccattc	agagctcggt	agccgaccag	aggagcttta	ttcaaggctg	3900
107	ttacagcttc	aaacacatag	gatttgaagc	ttgatcatgg	attaaaaaca	aaaaatcggt	3960
108	tgatgagttt	ttttttatat	taaaacttta	ttttggaaga	tttctatgaa	ctataaacat	4020

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Input Set : A:\PTO.txt

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114 &lt;213&gt; ORGANISM: Arabidopsis thaliana

116 &lt;400&gt; SEQUENCE: 2

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117 Met Ser Glu Thr Asn Thr Thr Asp Ala Lys Thr Val Pro Ala Glu Ala
118 1 5 10 15
119 Glu Lys Lys Lys Glu Gln Ser Leu Pro Phe Phe Lys Leu Phe Ser Phe
120 20 25 30
121 Ala Asp Lys Phe Asp Tyr Leu Leu Met Phe Val Gly Ser Leu Gly Ala
122 35 40 45
123 Ile Val His Gly Ser Ser Met Pro Val Phe Phe Leu Leu Phe Gly Gln
124 50 55 60
125 Met Val Asn Gly Phe Gly Lys Asn Gln Met Asp Leu His Gln Met Val
126 65 70 75 80
127 His Glu Val Ser Arg Tyr Ser Leu Tyr Phe Val Tyr Leu Gly Leu Val
128 85 90 95
129 Val Cys Phe Ser Ser Tyr Ala Glu Ile Ala Cys Trp Met Tyr Ser Gly
130 100 105 110
131 Glu Arg Gln Val Ala Ala Leu Arg Lys Lys Tyr Leu Glu Ala Val Leu
132 115 120 125
133 Lys Gln Asp Val Gly Phe Phe Asp Thr Asp Ala Arg Thr Gly Asp Ile
134 130 135 140
135 Val Phe Ser Val Ser Thr Asp Thr Leu Leu Val Gln Asp Ala Ile Ser
136 145 150 155 160
137 Glu Lys Val Gly Asn Phe Ile His Tyr Leu Ser Thr Phe Leu Ala Gly
139 165 170 175
140 Leu Val Val Gly Phe Val Ser Ala Trp Lys Leu Ala Leu Leu Ser Val
141 180 185 190
142 Ala Val Ile Pro Gly Ile Ala Phe Ala Gly Gly Leu Tyr Ala Tyr Thr
143 195 200 205
144 Leu Thr Gly Ile Thr Ser Lys Ser Arg Glu Ser Tyr Ala Asn Ala Gly
145 210 215 220
146 Val Ile Ala Glu Gln Ala Ile Ala Gln Val Arg Thr Val Tyr Ser Tyr
147 225 230 235 240
148 Val Gly Glu Ser Lys Ala Leu Asn Ala Tyr Ser Asp Ala Ile Gln Tyr
149 245 250 255
150 Thr Leu Lys Leu Gly Tyr Lys Ala Gly Met Ala Lys Gly Leu Gly Leu
151 260 265 270
152 Gly Cys Thr Tyr Gly Ile Ala Cys Met Ser Trp Ala Leu Val Phe Trp
153 275 280 285
154 Tyr Ala Gly Val Phe Ile Arg Asn Gly Gln Thr Asp Gly Gly Lys Ala
155 290 295 300
156 Phe Thr Ala Ile Phe Ser Ala Ile Val Gly Gly Met Ser Leu Gly Gln
157 305 310 315 320
158 Ser Phe Ser Asn Leu Gly Ala Phe Ser Lys Gly Lys Ala Ala Gly Tyr
159 325 330 335
160 Ser Thr Met Glu Ile Ile Asn Gln Arg Pro Thr Ile Ile Gln Asp Pro

```

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Input Set : A:\PTO.txt

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165	370	375	380
166	Asn Phe Asn Ile Phe Phe Pro Ser Gly Lys Thr Val Ala Val Val Gly		
167	385	390	395
168	Gly Ser Gly Ser Gly Lys Ser Thr Val Val Ser Leu Ile Glu Arg Phe		
169		405	410
170	Tyr Asp Pro Asn Ser Gly Gln Ile Leu Asp Gly Val Glu Ile Lys		
171		420	425
172	Thr Leu Gln Leu Lys Phe Leu Arg Glu Gln Ile Gly Leu Val Asn Gln		
173		435	440
174	Glu Pro Ala Leu Phe Ala Thr Thr Ile Leu Glu Asn Ile Leu Tyr Gly		
175		450	455
176	Lys Pro Asp Ala Thr Met Val Glu Val Glu Ala Ala Ala Ser Ala Ala		
177		465	470
178	Asn Ala His Ser Phe Ile Thr Leu Leu Pro Lys Gly Tyr Asp Thr Gln		
179		485	490
180	Val Gly Glu Arg Gly Val Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile		
181		500	505
182	Ala Ile Ala Arg Ala Met Leu Lys Asp Pro Lys Ile Leu Leu Leu Asp		
183		515	520
185	Glu Ala Thr Ser Ala Leu Asp Ala Ser Ser Glu Ser Ile Val Gln Glu		
186		530	535
187	Ala Leu Asp Arg Val Met Val Gly Arg Thr Thr Val Val Val Ala His		
188		545	550
189	Arg Leu Cys Thr Ile Arg Asn Val Asp Ser Ile Ala Val Ile Gln Gln		
190		565	570
191	Gly Gln Val Val Glu Thr Gly Thr His Glu Glu Leu Ile Ala Lys Ser		
192		580	585
193	Gly Ala Tyr Ala Ser Leu Ile Arg Phe Gln Glu Met Val Gly Thr Arg		
194		595	600
195	Asp Phe Ser Asn Pro Ser Thr Arg Arg Thr Arg Ser Thr Arg Leu Ser		
196		610	615
197	His Ser Leu Ser Thr Lys Ser Leu Ser Leu Arg Ser Gly Ser Leu Arg		
198		625	630
199	Asn Leu Ser Tyr Ser Tyr Ser Thr Gly Ala Asp Gly Arg Ile Glu Met		
200		645	650
201	Ile Ser Asn Ala Glu Thr Asp Arg Lys Thr Arg Ala Pro Glu Asn Tyr		
202		660	665
203	Phe Tyr Arg Leu Leu Lys Leu Asn Ser Pro Glu Trp Pro Tyr Ser Ile		
204		675	680
205	Met Gly Ala Val Gly Ser Ile Leu Ser Gly Phe Ile Gly Pro Thr Phe		
206		690	695
207	Ala Ile Val Met Ser Asn Met Ile Glu Val Phe Tyr Tyr Thr Asp Tyr		
208		705	710
209	Asp Ser Met Glu Arg Lys Thr Lys Glu Tyr Val Phe Ile Tyr Ile Gly		
		725	730
			735

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Input Set : A:\PTO.txt

Output Set: N:\CRF3\08092001\I817762.raw

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215 Ser Ala Ile Leu Arg Asn Glu Val Gly Trp Phe Asp Glu Asp Glu His
216      770      775      780
217 Asn Ser Ser Leu Ile Ala Ala Arg Leu Ala Thr Asp Ala Ala Asp Val
218 785      790      795      800
219 Lys Ser Ala Ile Ala Glu Arg Ile Ser Val Ile Leu Gln Asn Met Thr
220      805      810      815
221 Ser Leu Leu Thr Ser Phe Ile Val Ala Phe Ile Val Glu Trp Arg Val
222      820      825      830
223 Ser Leu Leu Ile Leu Gly Thr Phe Pro Leu Leu Val Leu Ala Asn Phe
224      835      840      845
225 Ala Gln Gln Leu Ser Leu Lys Gly Phe Ala Gly Asp Thr Ala Lys Ala
226      850      855      860
227 His Ala Lys Thr Ser Met Ile Ala Gly Glu Gly Val Ser Asn Ile Arg
228 865      870      875      880
229 Thr Val Ala Ala Phe Asn Ala Gln Ser Lys Ile Leu Ser Leu Phe Cys
231      885      890      895
232 His Glu Leu Arg Val Pro Gln Lys Arg Ser Leu Ser Leu Tyr Arg Ser
233      900      905      910
234 Gln Thr Ser Gly Phe Leu Phe Gly Leu Ser Gln Leu Ala Leu Tyr Gly
235      915      920      925
236 Ser Glu Ala Leu Ile Leu Trp Tyr Gly Ala His Leu Val Ser Lys Gly
237      930      935      940
238 Val Ser Thr Phe Ser Lys Val Ile Lys Val Phe Val Val Leu Val Ile
239 945      950      955      960
240 Thr Ala Asn Ser Val Ala Glu Thr Val Ser Leu Ala Pro Glu Ile Ile
241      965      970      975
242 Arg Gly Gly Glu Ala Val Gly Ser Val Phe Ser Val Leu Asp Arg Gln
243      980      985      990
244 Thr Arg Ile Asp Pro Asp Asp Ala Asp Ala Asp Pro Val Glu Thr Ile
245      995      1000      1005
246 Arg Gly Asp Ile Glu Phe Arg His Val Asp Phe Ala Tyr Pro Ser Arg
247      1010      1015      1020
248 Pro Asp Val Met Val Phe Arg Asp Phe Asn Leu Arg Ile Arg Ala Gly
249      1025      1030      1035      1040
250 His Ser Gln Ala Leu Val Gly Ala Ser Gly Ser Gly Lys Ser Ser Val
251      1045      1050      1055
252 Ile Ala Met Ile Glu Arg Phe Tyr Asp Leu Leu Ala Gly Lys Val Met
253      1060      1065      1070
254 Ile Asp Gly Lys Asp Ile Arg Arg Leu Asn Leu Lys Ser Leu Arg Leu
255      1075      1080      1085
256 Lys Ile Gly Leu Val Gln Gln Glu Pro Ala Leu Phe Ala Ala Thr Ile
257      1090      1095      1100
258 Phe Asp Asn Ile Ala Tyr Gly Lys Asp Gly Ala Thr Glu Ser Glu Val
259      1105      1110      1115      1120
260 Phe Asp Ala Ala Arg Ala Ala Asp Ala His Gly Phe Ile Ser Gly Leu

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VERIFICATION SUMMARY

DATE: 08/09/2001

PATENT APPLICATION: US/09/817,762

TIME: 16:57:03

Input Set : A:\PTO.txt

Output Set: N:\CRF3\08092001\I817762.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application Number

L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date

OIPE

## RAW SEQUENCE LISTING

DATE: 08/09/2001

PATENT APPLICATION: US/09/817,762

TIME: 16:39:43

Input Set : A:\SEQLISTCIP.txt

Output Set: N:\CRF3\08092001\I817762.raw

4 <110> APPLICANT: Spalding, Edgar P.  
 5 Noh, Bosl  
 7 <120> TITLE OF INVENTION: MDR-Like ABC Transporter Gene From  
 8 Plants  
 10 <130> FILE REFERENCE: 13238-00061  
 C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/817,762  
 C--> 13 <141> CURRENT FILING DATE: 2001-03-26  
 15 <150> PRIOR APPLICATION NUMBER: PCT/US99/22363  
 16 <151> PRIOR FILING DATE: 1999-09-24  
 18 <150> PRIOR APPLICATION NUMBER: US 60/101,814  
 19 <151> PRIOR FILING DATE: 1998-09-25  
 21 <160> NUMBER OF SEQ ID NOS: 14  
 23 <170> SOFTWARE: FastSEQ for Windows Version 4.0

## ERRORED SEQUENCES

1404 <210> SEQ ID NO: 10  
 1405 <211> LENGTH: 14000  
 1406 <212> TYPE: DNA  
 1407 <213> ORGANISM: Arabidopsis thaliana  
 1409 <220> FEATURE:  
 1410 <221> NAME/KEY: misc\_feature  
 1411 <222> LOCATION: (3429)...(0)  
 1412 <223> OTHER INFORMATION: Translation start codon  
 1414 <300> PUBLICATION INFORMATION:  
 1415 <308> DATABASE ACCESSION NO: Genbank AP000386  
 1416 <309> DATABASE ENTRY DATE: 1999-08-03  
 1418 <400> SEQUENCE: 10  
 1419 caattaatta tatcaaaatt tcgtatatca tttaaaattc atcaactgatt tttgtttaga 60  
 1420 aaaaaagata gatagctatg gacatgacgt cgaattttta tatatcttat gtaacagtgt 120  
 1421 tcatataatc aaaaaagaaa aaataattac tattgtttgt gttctttgca acaatgcgtt 180  
 1422 agaaactcgg agaccacttg ttttttctct tatgatttcg cttcagtatg atttagcaaa 240  
 1423 gcctctctac ggtacaaaat atcttacgaa ttgacatgat ctgacacaca ctatatcaag 300  
 1424 gagttagaaa gacagaactg aaagcttctt agctcgatat gtatttcaag ctacggttca 360  
 1425 caccatctag ggagacaaga atggaagaag gcatgacgtc aagtcgaact atgcagctct 420  
 1427 cttacttaaa tgggtcgaca aacaaatacg gaaccaacta tcatccattc gagcaagcgg 480  
 1428 tgataggtgg tatgactaag gtctctaaat ttggtttacg gcgaaaaatt aattgatcaa 540  
 1429 aaaatttttg gtttagtggt ttaagatctt tttcaaaaaa acgttgattt tgatgtataa 600  
 1430 acgctatttc tttttgaaat taatttaata ttatttttgt ttgaaaagaa gaagaaacat 660  
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 1436 aaccacttca catggctctg tcttacattc ataaccgaa\* ctgaagtcact tttagtgggt 780  
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DATE: 08/09/2001

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TIME: 16:39:44

Input Set : A:\SEQLISTCIP.txt

Output Set: N:\CRF3\08092001\I817762.raw

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1440	gaaaaaagaa	gatctttttg	tatctataga	tttagtgc	aacttttctc	agattttcga	1260
1441	tatatacaag	aatttaacat	aagaaaaatc	aagacaaatg	gacctgggta	taatcggtta	1320
1442	tctgttgtaa	atatttatatt	tcataattctt	ctccacttca	taattcttat	tggagttcct	1380
1443	tcaccaaag	tttgatgttc	cattaaatta	atctaccact	ctaataagag	gtatcggtact	1440
1444	acaaattaca	cttcataaac	aagagaagaa	cataaatttg	aattttttta	aaaaaacata	1500
1445	tgcgttataa	caccaaacag	taacggacta	gctgactcct	gaatttatat	tagttgcaaa	1560
1446	aattttatata	tcgaaattga	aacatgaatt	tttaaaatta	ttagaaaatg	tatgatgttg	1620
1447	tctaaatgtg	acattacaaa	tacatgatgt	tgtttaaaaa	ttattataaa	acaaccaaa	1680
1448	tttggcgctca	ttctggtaaa	cgcactta	gaatttatat	acagttaaag	attttaacat	1740
1449	caaatttttaa	aatgacaact	taactaaaa	ttgtatccta	atattttttac	tagagaaact	1800
1450	cacacatatt	tttcaaacia	atgattagtt	atatatcctt	cgataatagg	tattgtgtaa	1860
1451	aactgtgtgg	tttgcacaa	tgatccctcg	atattctttc	tgctaaagat	cgacttccca	1920
1452	cagtttcgat	atctcgggtt	tgggtgcaat	agcatatgct	tgttttagtat	gcagataatc	1980
1453	gtatgagaga	gtcagagaga	tcatactatt	ttcatgat	ggctctgagct	aatcgatcat	2040
1454	ttgttattta	tactcgataa	cgttctaatt	tgtatgattt	ttcagccttg	atctatcaca	2100
1455	aatggagat	aatgaaatgg	tagtcataag	aaaggtaatg	atccccctga	catgcttatt	2160
1456	ataacacaaa	aagtaatcgc	tactgattag	cttaccctat	gatttgaatc	atataacttt	2220
1457	atactaattg	tctaagtgtg	atgatataat	gtatatgatg	tcatttataa	cttatttagta	2280
1458	aaaataataa	gttcttcata	attgtcataa	ggagttaatt	ggatatacat	caaaaaattt	2340
1459	ctaaattttt	tagaaattat	taatacaagt	ataatagaaa	ttattaaata	aaatatatga	2400
1460	tgtttttctaa	atgtgacgat	acaaaaata	tgatgttggt	caaaacttat	tagacagaaa	2460
1461	ccaaagtaca	tcatacttgt	gatgaagact	ttaatggatt	tatacatttc	aaagttttaa	2520
1462	acattactta	tttaaatgaa	aaattgagct	aaaatttgta	tacttatatg	ttgaccatag	2580
1463	aaatacttct	atataatttt	agacaagttg	tctatacata	tatatatata	tatatatata	2640
1464	tatatatatg	tatttacaca	aaaatcaagt	ttctttaatg	taacaatata	aaaatataaa	2700
1465	atatctaagt	ttgtttaaaa	attatttaga	ccaaaaaaaa	aaaaaactgt	aatcaaactt	2760
1466	tcattggatt	atatctaact	ctaaacatga	atttttatac	aatgacatgt	tcaataaaat	2820
1467	tcccatttca	tagtttgacc	agaaaaaatg	cttgagagatt	tgttaaaatc	tctacttatg	2880
1468	caaaaccatt	gaatcacacc	agattttgat	ttgtagtact	ttaaaaatat	taattgaaca	2940
1469	caacataact	ttacaaaaaa	agatctttat	aaaaaaaaaa	ctttctaaaa	tgacattaat	3000
1470	taacacaaat	tagtcaattc	aaacaatcca	ataaaatcaa	agtaaaccct	taattgtttt	3060
1471	ttttttccat	tttacaaaa	gttaaacatt	aattacatca	actagcaaca	cgaatctctc	3120
1473	aatctctcat	gtctcaatga	gtctttgacc	actagtcttc	atcactctct	ctccctctca	3180
1474	tatatacaa	tcacaccctt	ctccaaccac	actctcattc	tctctctctt	ctcaccactt	3240
1475	caaaacaaga	cactcgtaaa	agagttcttg	aacttcacaa	aacaattgtc	agattttcaa	3300
1476	gaaaaacttt	ataaaacaaa	aaacatttca	ttctttctct	ctctctctct	cactgctcaa	3360
1477	tgatctcggt	ttctcaacta	accaactcgt	ttctctttac	ttcttttaac	tcggatctac	3420
1478	aaaaaaccat	gtcggaaaact	aacacaaccg	atgccaagac	tgttcagca	gaagcagaga	3480
1479	agaagaaaga	acagagttta	ccattcttta	aactcttttc	tttcgctgat	aaatttgatt	3540
1480	atctctta	gttcgttggt	tctcttggtg	ccattgttca	tggctcttcc	atgectgtct	3600
1481	tctttttact	ctttggtcaa	atgggttaatg	gatttggtta	aaaccaaatg	gatttacatc	3660
1482	aatgggttca	tgaagtctct	agagtaagtc	ttttttttct	ttcttggttt	tatcaaat	3720
1483	taaaaggt	atgataat	ttttgtttt	atgaaat	atgatttct	ctatatttct	3780



## RAW SEQUENCE LISTING

DATE: 08/09/2001

PATENT APPLICATION: US/09/817,762

TIME: 16:39:44

Input Set : A:\SEQLISTCIP.txt

Output Set: N:\CRF3\08092001\I817762.raw

```

1488 ttaaatcaga ttattaggca agaaatctaa aggtgtatTTt tttgagTTTTt atttgattct 4080
1489 tccTcaaagt gaccattttac tctgaaggta aaacattTTTT ttttactcta caacaaaaaac 4140
1490 ccaacttctt tttttgtttg cttcaaaaatt atattaaaaa aagaaaagctt aaactttgtt 4200
1491 taaaatcttg ttttttttgt cattcgcttt tgattagaac taaaaaaaacc atttttatag 4260
1492 aatgttgTTt acataagtga tgtaatgggg ttcggaacga actttccgtg ccaaccgctt 4320
1493 ttatagacaa gaaatctaaa ggtgtaattt ttgagTTTTt atttgattct tccacaaagt 4380
1494 gatcattttac tctggtaaac atttttttac tctacaacaa aaacccaact tttttatgtt 4440
1495 tgcttcaata aataaaaaacc tagaaacaga aatcacatc tagagagaat caaaattata 4500
1496 tataaaaaaa aaacacttca aattttttaa aatttttaata tgttaaaagg ataagccaag 4560
1497 tccacgtgat tcatggacta ctactttgtc tatatcgaaa aaaaaaaaaa aatgggcac 4620
1498 tctctcacat ttattacaac ttcataaaaa ttcttgtaat aataaccata atttttttgtt 4680
W--> 1499
aaataatTTTT acagagatag catgttggat gtattctgga gaaagacaag tagcagcatt 4740 aaggaagaaa tatcttgaag
E--> 1500 cagtattaaa acaagacgtt gggttctttg atactgatgc 4800
E--> 1501 tagaactggT gacattgtct ttagtgTTtTc tactgatact cttcttTgttc aagatgccat 4860
E--> 1502 tagtgaaaag gtaaccattt ttttttttac taccaacaaa atctagtatt taccggcggg 4920
E--> 1503 tcccattTTTT tcatgatca atctttatca aagTTTTggg tccgTTtatg ttagcaaccg 4980
E--> 1504 tCGTTtatct tgcgcctcag gtggttaggg aagaaaaaag actatagatt gatttttttt 5040
E--> 1505 tttgttaaaa taaaagTTg atttttttca taagattTgT aaaaataagta attttttttt 5100
E--> 1506 acaaattTgc tatagaaata gaggattTTTT ttcactattt aactaaaact taaatgatat 5160
E--> 1507 agtactcatt ttcttacatt tttaataata aaatagcttc tttttttcca ttgtgaaaaa 5220
E--> 1508 tatttattat gcaaaataat gtttctttaa caagtaaaat aaatattTgt tattaaaaaa 5280
E--> 1509 aatgtgtaaa gtaccttcaa attttaatag tacattttat ctaaaaactgt tttttttttt 5340
E--> 1510 gcaatttTgt cctgtctctg tggTgcacgt tagcaagcac gagctaacat gcactgggtc 5400
E--> 1511 ccctagtTtc attattatca tcaactTTTT ttattgtTga tgaagtgaat taataacaga 5460
E--> 1512 gtagttgaaa aaaaattgaa tttctcaggt tggaaaacttt atacattacc tctcaacatt 5520
E--> 1513 tttggcgggg ttagtagTTg gatttgTatc agcatggaaa ttagctTTgt taagtgtTgc 5580
E--> 1514 tgtgattccc ggaatcgctt tgcgcggagg tttatacgtc tatacactca ccggaattac 5640
E--> 1515 ttcaaagagc cgtgaatctt atgctaacgc cggTgttatc gccgagcagg taaataaaga 5700
E--> 1516 ttaaagTTg ttcttttatt tgttttattt aatgccacc aactgttcga cgtaatgctt 5760
E--> 1517 tttaaactgtt cttaggcttg cttctttgta cttgatctct caaatgattt tttttttttt 5820
E--> 1519 tcattgcttc ttatgcaatc caaagactta aacagtgttt tcaactaatc aaaatctttg 5880
W--> 1520
ctttcttttg gtCGgttaat gattgatgtt ttggtttctc aggcaattgc tcaagtTcga 5940 actgtttatt cttatgtTg
E--> 1521 agagagtaag gcacttaatg cgtattcgga tgcgattcag 6000
E--> 1522 tatacgctta agctcggtta taaagcgggg atggctaag ggttgggTTt aggatgtact 6060
E--> 1523 tatggaatag cttgtatgtc atgggctTTg gtgtttTgt atgctggagt ttttatcgg 6120
E--> 1524 aatggacaaa ccgatggagg aaaggcgTTt actgctatat tctctgctat tgttggtTga 6180
E--> 1525 atgtaagaat tcaaaacata acaatgatgt ggtttTgtgt atttTgtgtt ttgttattac 6240
E--> 1526 ttggatgtca cttttTgtt ctgtgtgtgt ttttaggagt ttggggcaat ctttctcgaa 6300
E--> 1527 tcttggggcg tttagtaaag gtaaagcggc tggttataag ttgatggaga taattaacca 6360
E--> 1528 gagaccgacg ataattcaag acccgTTgga tggaaaatgt ttggatcaag ttcattggga 6420
E--> 1529 cattgagTTt aaagatgtga cttttagcta tcttTcacgg cctgatgtta tgatctTcag 6480
E--> 1530 gaactttaat atttcttcc cttctgggaa aactgtggcg gttgtTggtg ggagtggctc 6540
E--> 1531 tggaaagadt actgtttttt cctcattTga qagattctat gacccaaca gcggtaattt 6600
E--> 1532 tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 6660
E--> 1533 actatactag agaacatact ctatggaaaag cctgatgcga caattgTtga agttgaagct 6740
E--> 1536 gctgcttccg ctgcgaatgc geatagTTtTc attacattac ttctaagg ctacgacaca 6900
E--> 1537 caggtataaa tcaaatattt gattatatgt ctagttaatg tcatggcctt ttgcttaatt 6960

```

## RAW SEQUENCE LISTING

DATE: 08/09/2001

PATENT APPLICATION: US/09/817,762

TIME: 16:39:44

Input Set : A:\SEQLISTCIP.txt

Output Set: N:\CRF3\08092001\I817762.raw

E--> 1538	ttttgttgaa	tgtcaataca	attaggttgg	agaacgtggg	gttcaactct	caggtggaca	7020
E--> 1539	gaagcagaga	attgcaattg	ctagggcgat	gttgaaagac	ccaaagattc	tgttactaga	7080
E--> 1540	tgaagctaca	agcgcctctg	atgctagctc	tgagagcatt	gttcaggaag	ctttagacag	7140
E--> 1541	agtcattggt	gggaggacca	ctgttggtgt	tgctcatcgt	ctctgcacca	tcagaaatgt	7200
E--> 1542	tgattccatt	gccgtgatac	agcaaggcca	agttgttgaa	accggaacac	atgaagaact	7260
E--> 1543	cattgccaaa	tccggtgctt	acgcacccct	cacaggtttt	caggaaatgg	ttggtactcg	7320
E--> 1544	agattttctc	aaccgcgtca	ctcgtcgcac	tcgttcaacc	cgtttgagcc	attcactgtc	7380
E--> 1545	aacgaaatca	ctcagtttaa	gatcaggaag	tttgaggaat	ctgagctatt	cttacagcac	7440
E--> 1546	tggagctgat	ggtcggtatg	agatgatttc	aaatgcagag	actgaccgaa	agactcgtgc	7500
E--> 1547	ccctgaaaat	tacttctaca	ggcttctcaa	gcttaattca	ccggaatggc	cttactcaat	7560
E--> 1548	catgggagca	gtaggtctaa	ttctttctgg	tttcattggt	ctacatttg	ctattgtgat	7620
E--> 1549	gagcaacatg	atcgaagtct	tctactacac	agactatgat	tcaatggaaa	ggaaaacaaa	7680
E--> 1550	agagtatgtc	ttcatctaca	ttggtgctgg	tctctatgct	gtgggtgctt	atttgatcca	7740
E--> 1551	acattacttc	tttagcatca	tgggagaaaa	cctcacaaca	agagtaagaa	gaatgatgct	7800
E--> 1552	ctcaggtatg	tatcaaaatc	tctgaatttt	gcttaaaatc	actttcccat	ttcttatttt	7860
E--> 1553	ggtttcttga	ttgttcttat	ttagctatct	tgagaaacga	agttgggttg	ttcgatgagg	7920
E--> 1554	atgaacacaa	ctcaagcctg	atcgcgtcac	gttttagctac	tgatgcagca	gatgttaaatt	7980
E--> 1555	ccgctatagc	cgagagaatc	tcagtaattc	tacaaaacat	gacttcactt	ctcacatcct	8040
E--> 1556	tcatagtcgc	cttcatagta	gaatggagag	tctcacttct	catcttaggc	acattcccac	8100
E--> 1557	ttctagtctc	cgtaactttt	gctcaggtaa	ataatctaat	ctttttactc	aaaatctttc	8160
W--> 1558	aatattcatc	aatcattaaa	atataattgg	aatcttgcat	tcaccattat	gatcttaaga	8220
E--> 1559	aaaggccaga	tttttataaa	tttatatttg	cttttcaaaa	gttcaaaact	8280	aaaaacgaca
E--> 1560	ttatagaaca	tggcaacaca	gccactgcct	ctacacgtgc	ttcatcttct	aactttatcc	8340
E--> 1561	aagtttgcat	ttatgtttac	aataataatc	ataaaagaat	tattaagaag	cttttttttt	8400
E--> 1562	ctactttttg	gaaatagtgt	aagggtcaag	atcatggagc	cctcacatca	ataaatgtgc	8460
E--> 1563	taaaaaaatt	aaaaaacagt	aggttttagt	ttactctctg	ggcatgtgtg	aagaatattt	8520
E--> 1565	attatatagt	ttctattggt	actatgaccc	atagataaca	gtgttcacga	aaatagctaa	8580
E--> 1566	gattcctctg	tcttttgctt	ctgctaaatc	tatcctactt	taagctttca	tatttacttc	8640
E--> 1567	actctctgaa	ctctgaactg	tgatcccact	tctctcttta	tttaattctt	ttgcccataa	8700
E--> 1568	aacctcacca	caaaaatcca	aaaaatctgc	aatttttttc	cttcttagaa	ccaatatttt	8760
E--> 1569	atttagagtt	cttcattggt	caaagttggt	gtctcagtgc	attatttact	tatcacagtg	8820
E--> 1570	tgtgtgtcag	tgtttttaca	ccatccacta	gtcaatgttt	gcttgtgggt	ttctttgttt	8880
E--> 1571	tggtagatta	ggttgtgatg	agtttttttt	ttgtttctaa	ctagctgcaa	gggttcaggac	8940
E--> 1572	tctgctttga	tatatcacca	acattttttc	accggtgac	taattattag	ttgaaaaatc	9000
E--> 1573	tatcaaatag	atttcacaca	gaagaacata	gataggcatt	gtacttgtag	tgatgttgat	9060
E--> 1574	gggatagagt	gttgcatatg	tgatttaact	atatggttct	acgtcatggt	ttagtggcga	9120
E--> 1575	cttagacctt	tgattgtcaa	tcttattttt	tacaagtga	ctattattac	catctgttgt	9180
E--> 1576	tctaaatcat	aagtattaat	atatgtggct	acattgcagc	aactatctct	gaagggtttt	9240
E--> 1577	gctggagaca	cagctaaggc	tcatgcaaag	acttcaatga	ttgctggtga	aggagtcagt	9300
E--> 1578	aacattagaa	ccgtagcagc	tttcaatgca	cagagcaaga	ttctctcttt	gttctgtcat	9360
E--> 1579	gagcttcgtg	tacctcagaa	aagaagctta	taccgaagtc	aaacctcggg	tttcttattt	9420
E--> 1580	ggcctctcgc	agcttgctct	ctatggttct	gaggetttta	ttctctggta	tggtgccac	9480
E--> 1581	cttggtgagta	aaggcgtgtc	aaccttttcc	aaagtgatca	aagtgtttgt	ggttttggtc	9540
E--> 1582	attactgcaa	actctgttgc	tgaaactgtc	agtcttgctc	ctgaaattat	tcggggaggt	9600
E--> 1583	gaaactgttt	gttcggtttt	ctcgggtctg	gacaggcaga	ccaggattga	cccggtatgat	9660

## RAW SEQUENCE LISTING

DATE: 08/09/2001

PATENT APPLICATION: US/09/817,762

TIME: 16:39:44

Input Set : A:\SEQLISTCIP.txt

Output Set: N:\CRF3\08092001\I817762.raw

```

E--> 1588 cggctaaacc tgaaatctct aaggetcaaa atcgggtcttg ttcaacaaga accagctctc 9960
E--> 1589 ttgcgagcaa cgatcttcga caacatcgcc tatggtaaag atgggtgcaac tgaatccgag 10020
E--> 1590 gtaattgatg cagctcgagc cgcaaatgct cagggtttca tcagtgggtt acctgaagg 10080
E--> 1591 tacaaaactc cagtaggcga aagaggagtg cagttatcag gtggacagaa acagaggatc 10140
E--> 1592 gcgatagcaa gagctgtgct caagaacctt acagtgttgc ttctagacga agcaactagc 10200
E--> 1593 gcactagatg cagaatcaga atgcgtgctg caagaggcgt tagagaggct catgagagg 10260
E--> 1594 cggaccaccg tggtagttgc tcaccgcttg tccaccataa gaggtgttga ttgcattggt 10320
E--> 1595 gtgattcaag acgggcggat tgtggagcaa ggcagccatt cagagctcgt tagccgacca 10380
E--> 1596 gagggagctt attcaaggct gttacagctt caaacacata ggatttgaag cttgatcatg 10440
E--> 1597 gattaaaaaac aaaaaatcgg tttgtgtaat tttttttata ttaaaacttt aatttggaa 10500
E--> 1598 atttctatgg actataacga taatatgaat aggtgtagat aatgaagctt ttggagtgtt 10560
E--> 1599 tatgaaggtt ctttaattaa gggttatttt ttctgcattt tgcattatgt cccgttttgg 10620
E--> 1600 aacataagac tgaactatgt ttctgttatg tttttaattt atgcctcgaa acaaaacaaa 10680
E--> 1601 atcactctaa tactttggtt gatcaaaatt tccctaaaac atttggttca tgactagaat 10740
E--> 1602 tgatcggaca tgttctttta ggggtttgat ctgcctggtt ctaatcaggt tatgtggtct 10800
E--> 1603 tacagcgact taatcaattt agaccggcta tcaaaattag attcagccta aacagcaaaa 10860
E--> 1604 ttgtcttata taatatccta aatcacagac cggatttttt ttttttataa actctatcgg 10920
E--> 1605 ctgatccggt caaccccggt agaaacgcac tgaagtgttt catagtggac ttcaaaccga 10980
E--> 1606 aattttgcag aaattgagat gagaatgagc tctacctcgc attgacatgt tatttcggtc 11040
E--> 1607 ttgagatctt aagtaatttt ttgagatctt aagtaatttt ttggtattca agttccttat 11100
E--> 1608 ttttttgcgg ttactcgtct tgacatgtta ttctgttctt gtgctactta cataccacaa 11160
E--> 1609 tatatgtagg ttctaaaca tatataatag gaatgttgtt ctatatatgt gttgtttgat 11220
E--> 1611 acgtaaaagag taactctggt ctacgtagag tctatctctt gtttcttggg gagatttga 11280
E--> 1612 ctggactgca tggtaatcct cgcgcctggt gtttagttac cggttgcttc attcatttgg 11340
E--> 1613 ccacgctcaa attttctaga agactcttcg gtctttggta caaaggcctc cgatttttcc 11400
E--> 1614 atgacaagtt cattcatatt tttttgtgac aacttgattg ttgttcattt ccgaatatc 11460
E--> 1615 catgaacgta tcaaaactca taaaatcgat tgttgtcact ccttttaaga tgagatcctc 11520
E--> 1616 aacggcagct tcaccactag ccatgttttc acacatgac aactatctca catttttact 11580
E--> 1617 aaggctttaa gcaggaatat tacttctaga attttaacaa tctagaattt ctagaggaaa 11640
E--> 1618 tgttcacatg tatataattt ggtatatgat ctagagaact tatataagat tatcaatgtt 11700
E--> 1619 taatatactc aacaaatggg ttcttctatt ttatcttcta attgttgggg ccttgaatta 11760
E--> 1620 tttagttctt ttactctatt ccttttcttt tatttgggtg gtggagccat aaagtcccaa 11820
E--> 1621 taatttctat gaaaagaaat gaataaaatc taaagaaacc aactgtgaag ctctttaatc 11880
E--> 1622 ttattctatc tgttggatct gtttgccttt atttgccttg catgtgggtt tgcgtgttaa 11940
E--> 1623 gataaaggcc atalcctctc ctaattcttt ttccaaatca acacatcaa tatataaaag 12000
E--> 1624 actccaaata ttttgaatag aatcataatt tatttaatta caaaaaaact taaagaattc 12060
E--> 1625 aagacctgcy atcacaagac aaatacatgt aaggaattaa atatttaaga taccacccgc 12120
E--> 1626 taataaataa gactcacaat ttctaaaaat taaaacgaaa aaaagaaaaa attagtcac 12180
E--> 1627 attgcatatc ttagtgaaca aaaatcaata agaaaaggat aatatacttt ttaccaacat 12240
E--> 1628 cacataaacc taaaagcatc tcacaccaaa agtaaattaa aaactcagaa aaagctgaat 12300
E--> 1629 acaagttatg aattttatgg aaagtgttag tgtgttagtg ttgttatcat tacaacttta 12360
E--> 1630 aaataattat gaacatgaaa aaatagattg aacatgaagc agcattggga aggactcgaa 12420
E--> 1631 tgctccctact catactgaca aaacctcaag tgttccagtg cgttaggttt cactttccag 12480
E--> 1632 tagtatgtgt atctgctttt tttgtatata ttaatgtaat agatagtgtg gagaatcatg 12540
E--> 1633 aggaacattt tctaatcata gaactaagge ataattttga tctgtgtgaa taatactatt 12600

```

## RAW SEQUENCE LISTING

DATE: 08/09/2001

PATENT APPLICATION: US/09/817,762

TIME: 16:39:44

Input Set : A:\SEQLISTCIP.txt

Output Set: N:\CRF3\08092001\I817762.raw

```

E--> 1638 ttgcttaatt ataatgatat gaggttcac aaatttatat accactaaaa ttttctaca 12900
E--> 1639 ctcacccaaa tattattctc gcttatgcag ttttaatacta atgtacaaat catatccata 12960
E--> 1640 agcgcatggg ccgatgctaa aattttggca ttagttgttg atttgttttt cttgagtcct 13020
E--> 1641 atgttcaaaa aatatatttg ataatttaaat gtataaatta taccataat cacattgatc 13080
W--> 1642
aatgcttaaaa gttttgtatt agttgttgat tttttgtttg tttgcgtgtg ttgaattttc 13140 ataaatgaaa agtaaatacg
E--> 1643 ataatacatat ttcaaaacgt aaaggtgtta attagtagtc 13200
E--> 1644 taaatggtaa aatataaaca gtatattata aaaattacta aaatggtttt gtaaaaaaaaa 13260
E--> 1645 tatgctatgtt gtattataat gaaattcaaa aattttaaat agaacgtata atttctgcac 13320
E--> 1646 aaagagggttt tgaggtgtta taattcatga agtaaatttt atttactgac gggtaagttg 13380
E--> 1647 tgaaaaagtt tgaagactat tttttttgct tttcacagag aaaactactt tcctttttta 13440
E--> 1648 ttgtatgatg agaaggcaaa agtgcagaca tgtgttttct tttctcccat tttcaacaat 13500
E--> 1649 gtcactcggt gtattattca tatttttagca aactggttat atctatatct atcaatcatt 13560
E--> 1650 tcagaacatc atatccatca gtttttggac attgctacat acgttagtat tgatgtacca 13620
E--> 1651 gttaccctaa caggcttttg catagtgtgg cagaacacgt gaggtgtgat atatgaggat 13680
E--> 1652 gaattctatg ttctgcattt tgttaccatt catataaaag tattgtttta gttgtgctgc 13740
E--> 1653 ggtttaagtc ctaatacaga tttatttgta gtgttatgtt tataaaccac attggaaccc 13800
E--> 1654 aaactctaag agaatataag atcaatgtgt aattaataaa ttttatagtc attcggataa 13860
E--> 1655 aacttagaaa gataacaaaa gtaagaacga gtatttttaa gcgaatactc tttagatatt 13920
E--> 1657 ctttgtattg atcattattg acaaacattt aaacattttt gtagacccta aaatccgata 13980
E--> 1658 tccaaaaaac aattcttatt 14000

```

## VERIFICATION SUMMARY

DATE: 08/09/2001

PATENT APPLICATION: US/09/817,762

TIME: 16:39:45

Input Set : A:\SEQLISTCIP.txt

Output Set: N:\CRF3\08092001\I817762.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application Number  
L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:1499 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:9  
L:1500 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:10  
L:1500 M:254 E: No. of Bases conflict, LENGTH:Input:4800 Counted:4720 SEQ:10  
M:254 Repeated in SeqNo=10  
L:1520 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:9  
L:1521 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:10  
L:1558 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:8  
L:1559 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:10  
L:1642 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:9  
L:1643 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:10  
L:1658 M:252 E: No. of Seq. differs, <211>LENGTH:Input:14000 Found:13690 SEQ:10